

REMARKS

Claim Status

No amendments are being made to the claims.

Claims 1-7 and 27-33 are pending. Claims 1, 28, 29, 30, and 31 are independent claims.

Prior Art Rejection

The action continues to reject all claims 1-7 and 27-31 as allegedly obvious over U.S. Patent 4,030,948 ("Berger") in view of Prior Art shown in Figure 2 of the present application ("PA"). Claim 33, which was added in our last Reply, also stands rejected as allegedly obvious over Berger and PA.

Claim 32, which was also added in our last Reply, stands rejected over Berger and PA, further in view of U.S. Patent No. 6,006,512 ("Schmid").

We traverse.

Telephone Interview

On November 29, 2005, applicant's representative Marc Wefers discussed the outstanding rejection with the Examiner during a telephone interview. We had hoped that the Examiner could expound on the Response to Arguments section of his action, because we found it to be non-responsive to some of the arguments set forth in our Reply of June 16, 2005. No agreement was reached. As best we understand, the Examiner is rejecting at least some of the claims because he believes the properties of the coating in Berger inherently meet the claim limitations. If this is indeed the Examiner's position, we submit the Examiner has not met his burden under the law for making such a rejection, as set forth in greater detail below.

Arguments Rebutting the Rejections of Record

- 1. The cited prior art does not disclose or suggest, explicitly or inherently, “an anti-solder coating preventing solder adherence to the coating” as recited in each of the independent claims.**

To support the obviousness rejection, all of the claim limitations must be taught or suggested by the prior art. MPEP § 2143.03. That is simply not the case here.

Each independent claim requires “an anti-solder coating preventing solder adherence to the coating.” The Action continues to allege that this “anti-solder” limitation corresponds to conformal coating 34 in Berger. Specifically, the Action points to col. 3, lines 6-7, to support the position that conformal coating 34 “is adhesive tenaciously to the surface of the device.” (Action at pages 3 and 7.) But, this is not what is claimed. Rather, the claimed coating has the property that it prevents solder from adhering to it.

For example, the specification explains that “to prevent the occurrence of solder splash in the form of small solder accumulations on electronic component surfaces not intended for soldering, particularly during immersion in a solder bath or during solder flood processes, the invention suggests an anti-solder coating on the electrical component surfaces not intended for soldering that prevents solder adherence” (page 2 of the specification, emphasis added.)

We submit that there is nothing in Berger to indicate that his coating 34 prevent solder from adhering to it. He does not describe the problem of solder splash, nor does he indicate whether or not solder adheres to the coating 34. To the contrary, as explained in our prior Reply, the disclosure in Berger relied on by the Action, that conformal coating 34 adheres tenaciously to the underlying metallic device, *suggests the opposite* – that solder, which is likewise metallic, *would* adhere to coating 34.

Specifically, as noted in our prior Reply, Berger states:

“The material of the layer 34 comprises one of the novel conformal coating materials to be described heretoafter ... The material [of layer 34] should adhere very tenaciously to the surface to which it is applied ...” (col. 3, lines 52-53.)

“The material of the circuits 154 and 158 may be of copper, aluminum and the like. A layer 160 of a suitable conformal coating material such, for example, as

described [in conformal coating layer 34] ... is disposed on at least the [metal] circuit 154. When cured in situ, the material of the layer 160 shows excellent adherence to the board 152 and the material of the circuit 154. *The metal of the layer 158 adheres well to the cured conformal coating material* and is electrically isolated thereby from the metal circuit 154.” (col. 10, lines 37-45, emphasis added, see also Fig. 5.)

Thus, Berger not only fails to indicate that coating 34 prevents solder from adhering to it, but in fact suggests that metal, such as solder, adheres well to coating 34.

The only other basis stated in the Action for alleging that the Berger coating 34 prevents solder from adhering to it is that “the figures 1-2 do not show a solder splash adhesive to the surface of the coating.” (Action at page 7.) This position is plainly absurd. The figures in Berger are schematic patent drawings used to convey ideas having nothing to do with solder splash. It is unreasonable for the Examiner to rely on a complete lack of disclosure in Berger regarding the problem of solder splash to allege that the coating must therefore prevent solder adherence.

To the extent the Examiner is attempting make an inherency argument (i.e., alleging that the Berger coating 34 would inherently prevent solder from adhering to it), we remind the Examiner that to support such an allegation he must provide sufficient evidence. The MPEP states:

The fact that a certain result or characteristic may occur or be present in the prior art is *not* sufficient to establish the inherency of that result or characteristic. ... In relying upon the theory of inherency, the examiner *must* provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. (MPEP § 2112(IV), emphasis added, citations omitted.)

The Examiner has clearly failed to meet this high standard in the present action. To the contrary, as noted above, the disclosure in Berger that his coating 34 adheres tenaciously to metal suggests that the coating would *not* prevent solder from adhering to it.

Accordingly, we ask the Examiner to withdraw the rejection. In the event the Examiner elects to sustain the rejection, we respectfully ask that the Examiner specifically identify where

in Berger it is explicitly disclosed that coating 34 prevents solder from adhering to it, as claimed, or, if the Examiner is alleging that the Berger coating inherently has this property, provide evidence showing why the Berger coating, which adheres well to metal, would *necessarily* prevent solder from adhering to it.

2. Berger does not disclose the coating “consisting essentially of a siloxane.”

Dependent claim 2, which depends from each of the independent claims, recites that “the anti-solder coating consists essentially of a siloxane.” Dependent claims 3-6 go on to recite with greater specificity the type of siloxane. In our prior Reply, we explained why Berger does not disclose these limitations. However, the present action seemed to ignore this argument without comment. We try to explain it further below.

MPEP § 2111.03 explains that “[t]he transitional phrase ‘consisting essentially of’ limits the scope of a claim to the specified materials or steps and those that do not materially affect the basic and novel characteristic(s) of the claimed invention.” While the conformal coating in Berger includes some siloxane, it does not “consist essentially of” a siloxane.

To the contrary, Berger states:

“In accordance with the teachings of this invention, there is provided a reaction product of a tetracarboxylic acid dianhydride, a diamine and a di(aminoalkyl) polysiloxane wherein *the polysiloxane diamine constitutes from 18 to 45 mole percent* of the total diamines in the copolymer.” (col. 2, lines 7-12, emphasis added.)

Thus, the polysiloxane in the Berger coating is but one of several organic components that make up the Berger coating. Moreover, because the copolymer includes more than just the diamines, the polysiloxane content in the polymer as a whole is even less than the cited 18 to 45 mole percent. Such content falls far short of that required by a claim using the transitional phrase “consisting essentially of” because more than half of the Berger coating consists of non-polysiloxane components.

In contrast, the preferred embodiment for the organic coating disclosed in the present application consists entirely of polyether-modified dimethyl-polysiloxane. Taking into account this difference in chemical composition, it is not surprising that the Berger coating may not prevent solder adherence as claimed and disclosed in the present application.

Accordingly, we ask that the rejection of claim 2 be withdrawn.

3. Schmid does not disclose a hydrous solution to apply the anti-solder coating.

Dependent claim 32, depends from each of the independent claims, and recites “wherein the anti-solder coating can be applied to the plastic housing from a hydrous solution. The action concedes that “Berger and PA do not explicitly show the coating applied to the plastic housing from a hydrous solution,” but argues that it would have obvious “to have a coating made from a hydrous solution as taught by Schmid employed in the component of Berger and PA in order to provide less time and low cost of manufacture.” (Action at page 6.) We traverse.

First, we submit that Schmid is directed to non-analogous art, and therefore cannot be reasonably combined with Berger and PA to form an obviousness rejection. Specifically, Schmid is directed to a macroscopic mechanical tool – specifically, a mechanical rotor cup, whereas Berger is directed to a coating for a semiconductor components. Because these references are directed to such different fields, they cannot be combined with one another to form an obviousness rejection. See MPEP § 2141.01(a).

Second, and more importantly, the combination of Schmid and Berger and PA do not disclose all of the limitations of claim 32. Specifically, Schmid does not disclose depositing a protective polymer coating on his mechanical component from a hydrous solution. To the contrary, the hydrous solution 10 is used in Schmid to deposit nickel plating, not the protective coating 16, which is formed by liquid wax 15. (See, for example, Schmid at col. 3, lines 6-9 and 20-24, and figure 4c.) Therefore, for the sake of argument only, even if there were motivation to modify Berger and PA according to Schmidt, the disclosure in Schmidt would suggest depositing the protective coating from wax, not a hydrous solution as claimed. As a result, the cited art fails to teach or suggest all of the claim limitations.

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Therefore, we ask the Examiner to withdraw the obviousness rejection of claim 32.

Conclusion

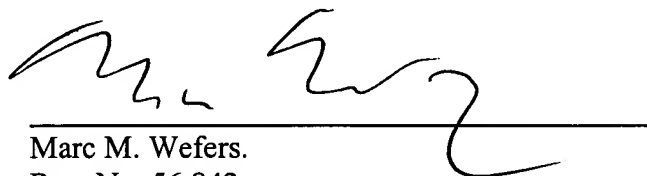
In view of the above, we ask that the application be allowed.

Enclosed is a check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050, referencing 12406-017001.

Respectfully submitted,

Date: _____

1/3/06



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